

PATENT SPECIFICATION

943,416

DRAWINGS ATTACHED.

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943,416

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COMPLETE SPECIFICATION.

Improvements relating to Hose-Reels for Fire-Fighting Equipment.

We, CHARLES WINN & Co. LIMITED, a British Company, of Granville Street, Birmingham 1, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention relates to improvements in hose-reels for fire-fighting equipment.

In public buildings, blocks of offices, and other large buildings, it is common practice to provide at strategic points fire hoses wound on reels, each connected through a valve to a source of water under pressure, so that the hose can be rapidly drawn out from the reel when required, and led to the seat of a fire.

The hose reel is usually mounted on a wall for rotation about a horizontal axis at right angles to the wall, and the hose is drawn out from the bottom of the reel. There is no difficulty in drawing the hose out if the reel is mounted on a flat wall of a corridor or the like, but if the reel is mounted on the back wall of a recess or alcove then the hose, when drawn out in a direction substantially parallel to the wall, may foul the outer corners of the recess or alcove. This impedes the rapid running out of the hose and may cause damage to the hose and to the wall.

According to our invention, a hose reel intended for mounting in a recess or alcove or equivalent position is provided in combination with a guide which is movable automatically into an operative position when a pull is applied to the hose to draw it out from the reel, the guide remaining in the operative position until it is manually returned to a position where the guide lies adjacent to a wall on which the reel is mounted after the hose has been rewound on the drum.

The guide may take various forms. It may, for example, comprise a telescopic member having on its free end an eye or loop through which the hose runs, or it may comprise an arm swinging about a vertical axis adjacent to the hose reel.

One embodiment of our invention is illustrated by way of example in the accompanying drawings in which:—

Figure 1 is a front elevation of a hose reel;
Figure 2 is a side elevation;
Figure 3 is a plan;
Figure 4 is a vertical section on a larger scale of the mounting for the inner end of the guide arm; and
Figure 5 is a plan, and Figure 6 is a side elevation of the cam ring for controlling the guide arm.

In the construction illustrated, 10 is a hose reel adapted to carry a fire hose of which the discharge nozzle is shown at 11. The reel is mounted for rotation about a horizontal axis on a bracket 12, adapted to be secured to a wall 13 at the inner end of a rectangular alcove 14 in a corridor or the like in a building. As shown in Figure 3, the depth of the alcove is such that there is no projection of the hose reel into the corridor. Water under pressure is supplied to the hollow spindle of the hose reel through a vertical supply pipe 15 provided with a control valve 16 operated by a hand wheel 17.

A guide arm 18 has at its outer end an eye or loop 19 through which the nozzle

end of the hose is passed, and at its inner end the arm has an integral sleeve portion 21 which is slidably and rotatably mounted on a cylindrical portion of a fitting 22 forming part of the water supply pipe.

The lower end of the sleeve rests under gravity on a collar 23 fixed on the fitting. The sleeve carries a downwardly projecting peg 24 with a rounded or chamfered end which co-operates with a face cam on the upper end of the collar 23. The cam is of the form shown in Figures 5 and 6, and presents a recess 25 at one end of which is a vertical shoulder with which the peg 24 normally engages. The other end of the recess has an inclined ramp 26 leading out of the recess 25 and adapted to guide the peg into an arcuate recess 27 subtending an angle of about 70°, the angular position of the recess 27 being such that a radius passing through its centre is at right angles to the rear wall of the alcove in which the reel is mounted.

Normally, the peg 24 lies in the recess 25. When a pull is applied to the hose, the arm swings round and the peg rides up the ramp 26 and then drops into the arcuate recess 27 which confines the arm to angular movement through an angle of about 35° to each side of a plane at right angles to the rear wall of the alcove. The length of the arm is such that in either of its extreme angular positions the hose as it is run out is guided clear of the outer corners of the alcove. The limiting positions of the guiding eye or loop on the outer end of the arm are shown in dotted lines in Figure 3.

When the hose is finished with and re-wound on the reel, the guide arm is returned to its initial position by lifting it manually through a distance sufficient to carry the peg 24 clear of the ends of the arcuate recess 27 in the cam, and then swinging the arm back.

In the normal position, the nozzle 11 of the hose depends downwardly from the guide loop at the outer end of the arm, and there is preferably mounted on the hose or on the end of the nozzle to which the hose is attached a rubber, plastic or like disc 28 of substantial diameter. The disc normally rests against the underside of the guide loop, and being larger in diameter than the loop it prevents the nozzle from being drawn back through the loop, and prevents over-winding of the reel. The disc also protects the operator's hand when the hose is in use, and it protects the nozzle from damage if it is dropped or is dragged along the floor when re-winding the hose.

In a modification, the guide arm may be angularly movable about a horizontal or inclined axis, the arm hanging downwardly when not in use, and being swung up into a substantially horizontal position when a

pull is applied to the hose to draw it off the reel.

While our invention is intended primarily for fire-fighting equipment, a hose reel in accordance with our invention can be used for various other purposes wherever a similar problem is presented by the position in which the hose reel is mounted. For example, hose reels for some purposes are mounted in cupboards, and without a guide arm the hose would be liable to foul the doors or the front edges of the side walls of the cupboards as it is drawn off the reel.

WHAT WE CLAIM IS:—

1. A hose reel intended primarily for fire-fighting equipment, and for mounting in a recess or alcove or equivalent position, in combination with a guide which is movable automatically into an operative position when a pull is applied to the hose to draw it out from the reel, the guide remaining in the operative position until it is manually returned to a position where the guide lies adjacent to a wall on which the reel is mounted after the hose has been rewound on the drum.

2. A hose reel as claimed in Claim 1, in which the guide comprises a substantially horizontal arm having at its outer end an eye or loop through which the hose passes and having on its inner end a cylindrical sleeve portion which is a working fit on a cylindrical vertical portion of a fitting forming part of the water supply to the hose reel, this fitting being located below the reel.

3. A hose reel as claimed in Claim 2, in which the sleeve on the inner end of the arm is vertically movable on the fitting and has on its lower end a peg co-operating with a face cam on the upper end of a fixed collar on the fitting, the form of the cam being such that the arm can move freely under the pull of the hose into an operative position in which it can swing through a limited angle to each side of a position at right angles to a wall on which the reel is mounted.

4. A hose reel as claimed in Claim 2 or 3, in which a rubber, plastic or like disc of a diameter greater than that of the eye or loop on the swinging arm is fixed on the hose nozzle, and in the fully wound position of the hose the disc engages the underside of the eye or loop and prevents the nozzle from being drawn back through the eye or loop.

5. A hose reel having means for guiding the hose as it is drawn off the reel, substantially as described with reference to the accompanying drawings.

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COMPLETE SPECIFICATION

3 SHEETS

This drawing is a reproduction of
the Original on a reduced scale
Sheet 1

FIG.1.

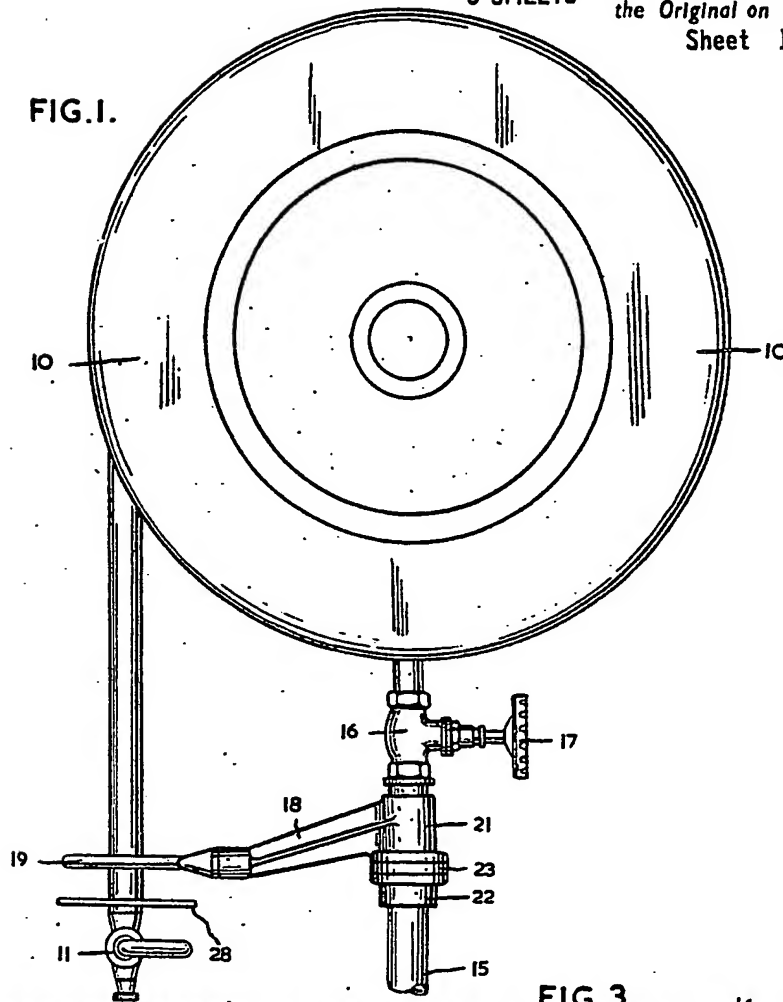


FIG.3.

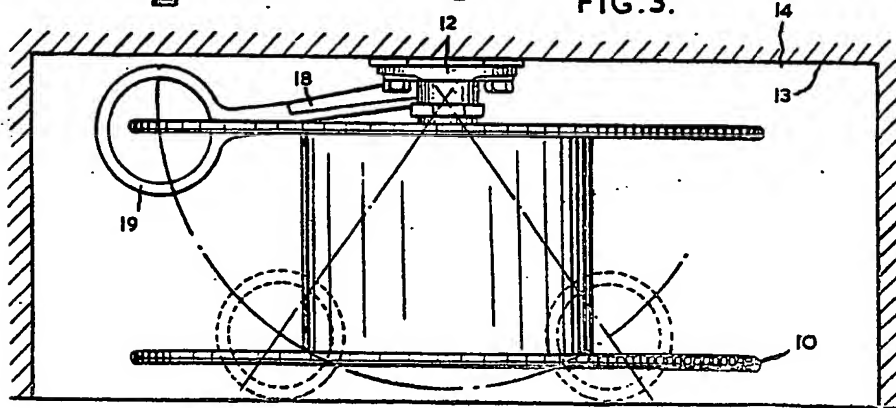
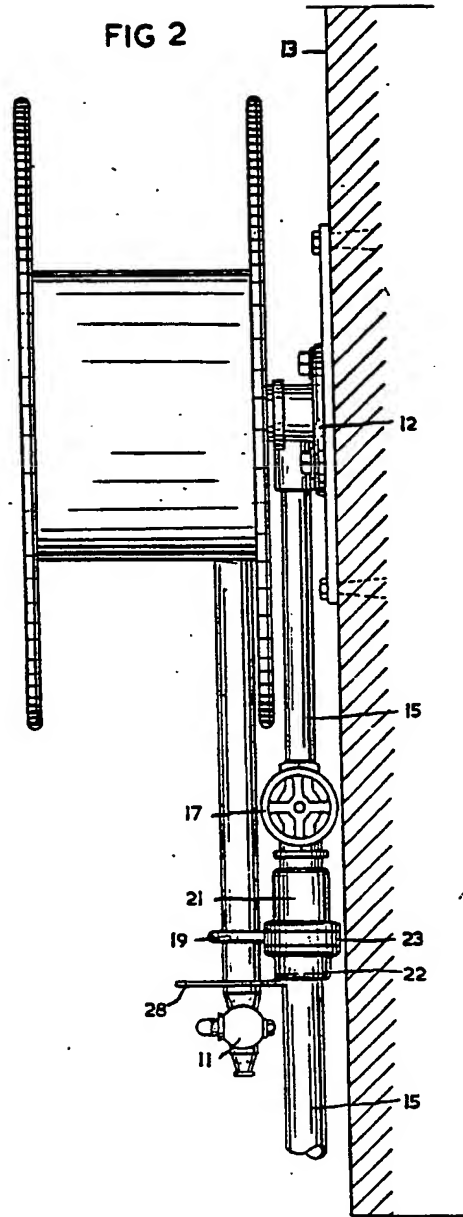


FIG 2



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COMPLETE SPECIFICATION

3 SHEETS

*This drawing is a reproduction of
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Sheets 2 & 3*

FIG. 4.

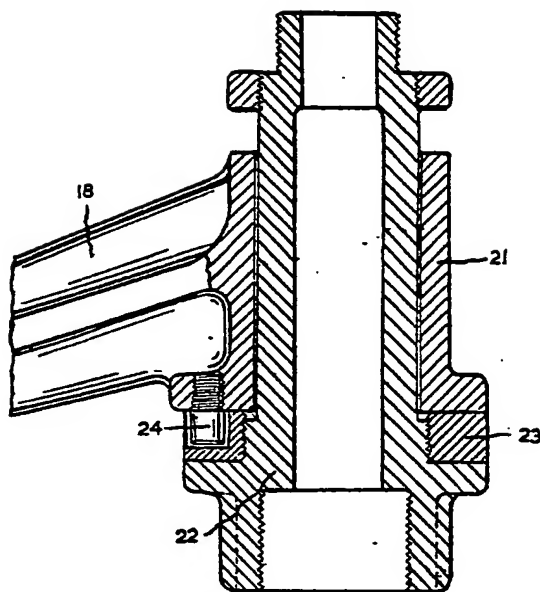


FIG. 5.

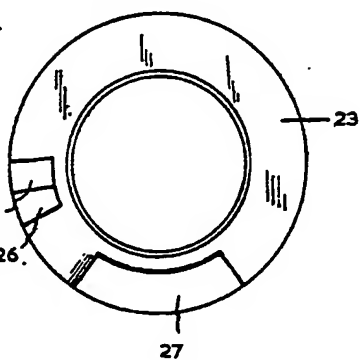


FIG. 6.

